

APPLICATION FOR A UNITED STATES PATENT
UNITED STATES PATENT AND TRADEMARK OFFICE

Title: Wrapped Bolster Seal

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By:


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FIELD OF THE INVENTION

This invention relates to a seal inside of a door for a motor vehicle. More specifically, it relates to a wrapped seal for a wet door.

BACKGROUND OF THE INVENTION

5 Most motor vehicle doors are a compilation of parts. Typically, the doors have two or more panels, which attach to a doorframe. There can be an exterior panel which protects an occupant from most outside elements and there can be an interior panel, which may add to the luxury of a particular motor vehicle. The interior panel may house such features as an armrest, door locks, window control, etc. However, between the
10 panels there can be some empty space, which may cause problems for a user.

If not properly sealed, the door may suffer damage from leaks that may occur in the empty space. This can cause increased wear and tear on a motor vehicle as well as rusting or other damage due to water retention, not to mention the possibility of a user getting wet while in the motor vehicle. As a result, motor vehicle doors now have seals
15 to protect the door and its panels from water damage. Optimally, a seal will prevent all water from leaking into a door panel. However, it is always possible that some water will leak in. To prevent this problem, some doors, known as wet doors, have a seal in the empty space between the door panels that will also prevent water from reaching the interior of the motor vehicle.

20 The wet side of the wet door is the side closest to the exterior of the motor vehicle. The dry side is up against the interior of the motor vehicle. The wet and dry sides are joined by a mating part. In a wet door, all holes must be closed and sealed by the mating part. However, in current art, with wrapped parts there is a problem of sealing

properly against a random, creased, and layered surface. With these types of surfaces, it is difficult to get an adequate seal that will not have some leakage. This invention solves that problem by creating a seal that keeps the wrapped parts dry.

SUMMARY OF THE INVENTION

5 The objects of this invention relate to a wrapped bolster seal. This wrapped bolster seal comprises at least two door panels, where one is the wet side door panel and the other is the dry side door panel, a rib, and edge wrapping layers around said wet side door panel. The rib is placed on the wet side door panel. The rib is to be much higher than the maximum thickness of the individual edge wrap layers. The wet side door panel
10 and dry side door panel are joined together. Once the door panels are joined, the rib creates a seal that will keep the edge wrapping layers dry and prevent damage from leaks.

 This wrapped bolster seal comprises at least two door panels, where one is the wet side door panel and the other is the dry side door panel, a rib, edge wrapping layers around said wet side door panel, and a foam-like material. The foam-like material is
15 placed on the dry side door panel and the rib is placed on the wet side door panel. The rib is to be much higher than the maximum thickness of the individual edge wrapping layers. The wet side door panel is to be joined to the dry side door panel. After the door panels are joined, the rib creates a seal with the foam-like material to keep the edge wrapping layers dry and prevent damage from leaks.

20 DETAILED DESCRIPTION OF THE DRAWINGS

 FIG. 1 is a view of the wet side door panel with the rib and the dry side door panel with the foam-like material before the two door panels are joined.

FIG. 2 is a view of the wet side door panel joined with the dry side door panel with the rib creating a seal with the foam-like material.

FIG. 3 is a detailed view of the rib creating a seal with the foam-like material.

FIG. 4 is a view of the rib creating a seal without the foam-like material.

5 **DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT**

This invention relates to a wrapped bolster seal for a motor vehicle. In one of the preferred embodiments, seen in FIG. 4, the wrapped bolster seal comprises at least two door panels further comprising a wet side door panel 8 and a dry side door panel 10; a rib 12; and edge wrapping layers 14 around the wet side door panel 8. The rib 12 is placed
10 on the wet side door panel 8 beneath the edge wrapping layers 14. Preferably, the rib 12 should be much higher than the maximum thickness of the individual edge wrapping layers 14.

The wet side door panel 8 is then to be joined with the dry side door panel 10. The rib 12 creates a seal against the dry side door panel 10. The seal will be achieved
15 away from the edge wrapping layers 14 so that the edge wrapping layers 14 will always be dry.

In another of the preferred embodiments, seen in FIGS. 1-3, the wrapped bolster seal comprises at least two door panels further comprising a wet side door panel 8 and a dry side door panel 10; a rib 12; edge wrapping layers 14 around the wet side door panel
20 8 and a foam-like material 16. The rib 12 is placed on the wet side door panel 8. Preferably, as in the above-mentioned embodiment, the rib 12 should be much higher than the maximum thickness of the individual edge wrapping layers 14. The foam-like

material 16 is placed on the dry side door panel. This foam-like material 16 can comprise of any suitable or compliant surface for forming a proper seal.

5 The wet side door panel 8 is to be joined with the dry side door panel 10 thereby creating the door for the motor vehicle. When the door panels 8, 10 are assembled, a seal will be created between the rib 12 and the foam-like material 16. This seal will be achieved away from the edge wrapping layers 14 so that the edge wrapping layers 14 will always be dry.

10 The rib 12 can be placed in nearly any position in relation to the foam-like material 16 and still create a seal. As seen in FIG. 2 and FIG. 3, the rib 12 fits directly into the foam-like material 16. This creates enough of a seal to properly keep the edge wrapping layers 14 dry. With the edge wrapping layers 14 dry, the empty space between the door panels 8, 10 is kept from damage by water.

15 The above presents a description of the best mode contemplated for carrying out this invention. The claims should not be read as limited to the described order or elements unless stated to that effect. Therefore, all embodiments that come with the scope and spirit of the following claims and equivalents thereto are claimed as the invention.